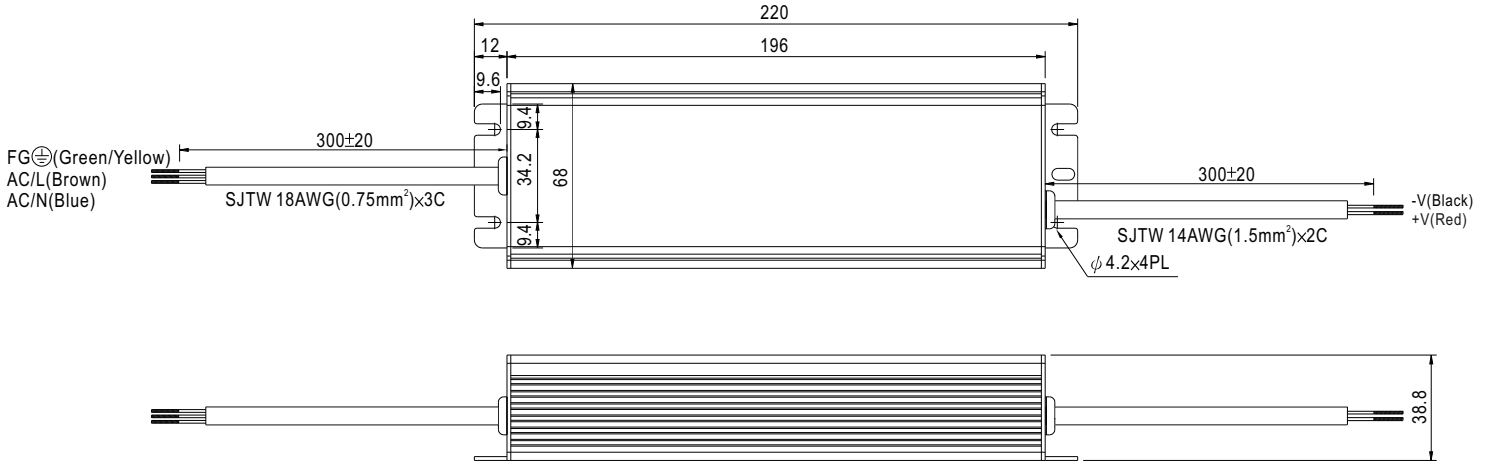


Mechanical Specification

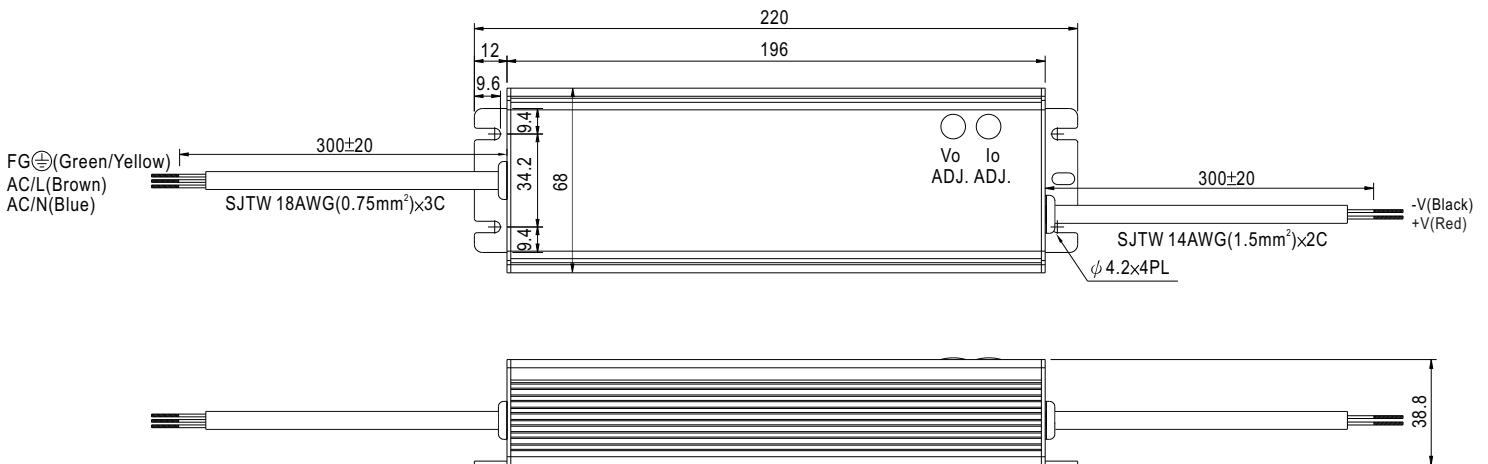
Case No.994A Unit:mm

Blank:(HLG-120)



※IP67 rated. Cable for I/O connection.

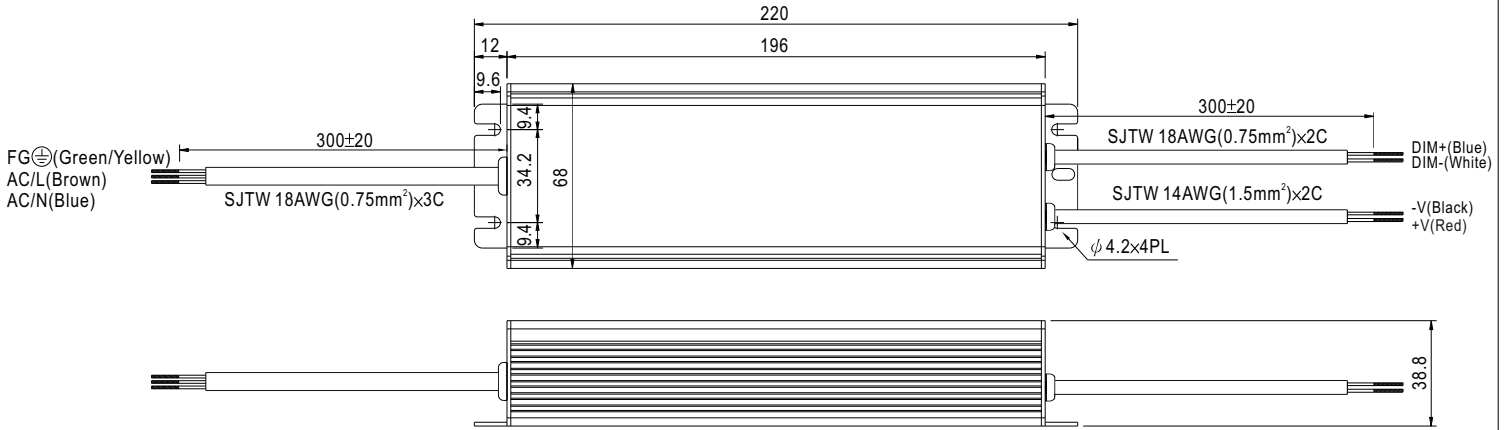
A Type:(HLG-120- _A)



※ IP65 rated. Output voltage and constant current level can be adjusted through internal potential meter.
(Can access by removing the rubber stopper on the case.)

120W Single Output Switching Power Supply

B Type:(HLG-120-B)



※ IP67 rated. Output constant current level can be adjusted through output cable by connecting a resistor or 1 ~ 10Vdc or 10V PWM signal between DIM+ and DIM-.

※ Please DO NOT connect "DIM-" to "-V".

※ Reference resistance value for output current adjustment (Typical)

Resistance value	10KΩ	20KΩ	30KΩ	40KΩ	50KΩ	60KΩ	70KΩ	80KΩ	90KΩ	100KΩ	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

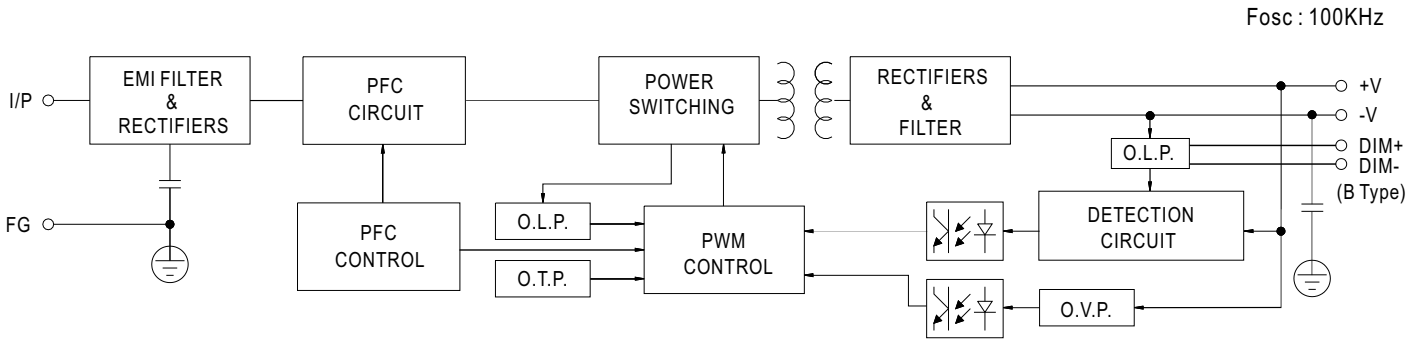
※ 1 ~ 10V dimming function for output current adjustment (Typical)

Dimming value	1V	2V	3V	4V	5V	6V	7V	8V	9V	10V	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

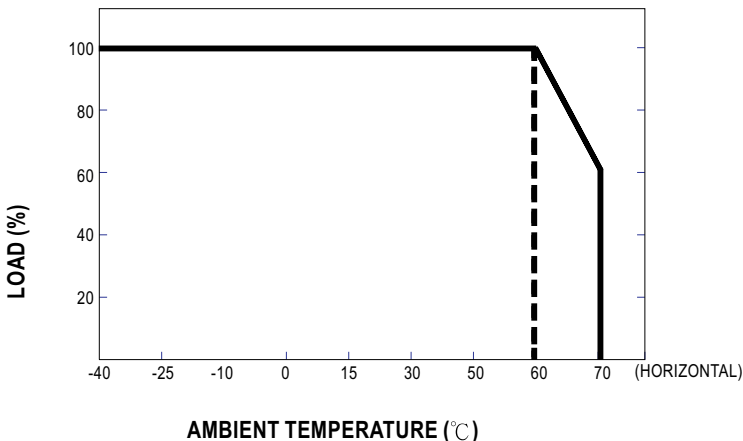
※ 10V PWM signal for output current adjustment (Typical): Frequency range : 100HZ ~ 3KHz

Duty value	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	OPEN
Percentage of rated current	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	102%~108%

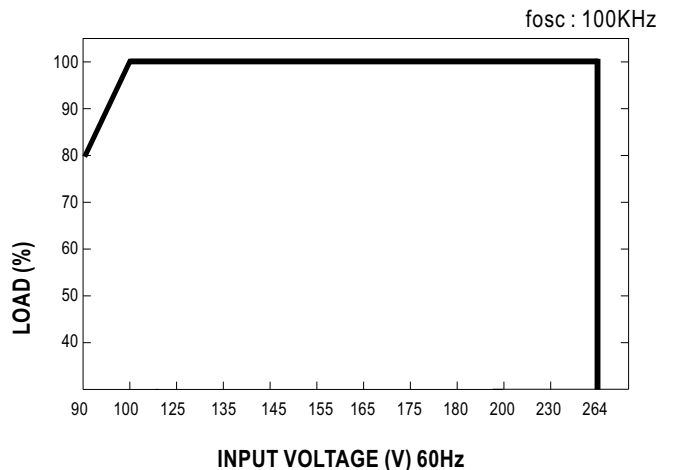
Block Diagram



Derating Curve



Static Characteristics

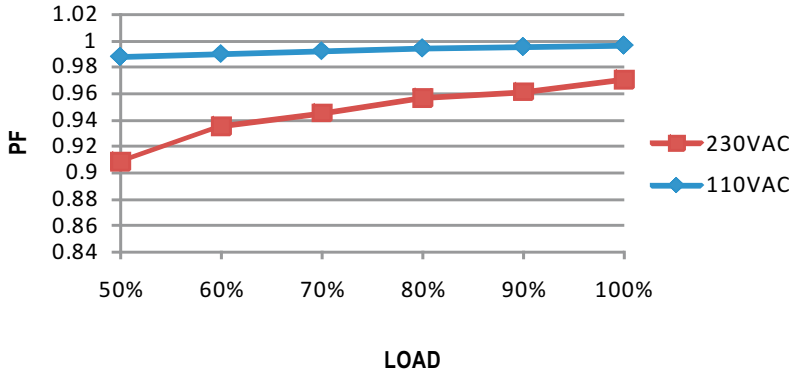


120W Single Output Switching Power Supply

Power Factor Characteristic

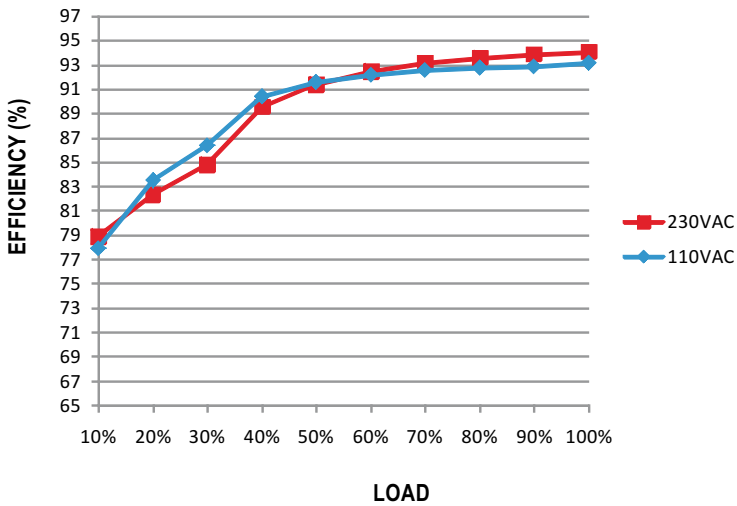
Power factor will be higher than 0.9 when output loading is 50% or higher.

Constant Current Mode



EFFICIENCY vs LOAD (48V Model)

HLG-120 series possess superior working efficiency that up to 94% can be reached in field applications.

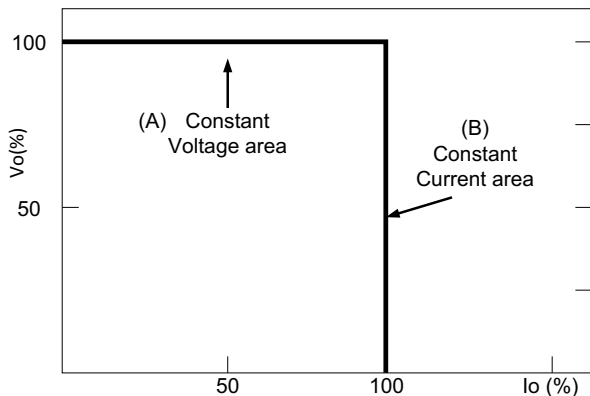


DRIVING METHODS OF LED MODULE

There are two major kinds of LED drive method "direct drive" and "with LED driver".

A typical LED power supply may either work in "constant voltage mode (CV) or constant current mode (CC)" to drive the LEDs.

Mean Well's LED power supply with CV+ CC characteristic can be operated at both CV mode (with LED driver, at area (A) and CC mode (direct drive, at area (B)).



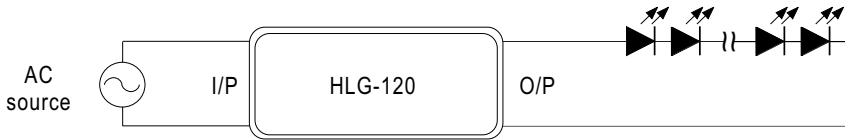
Typical LED power supply I-V curve

120W Single Output Switching Power Supply

☉ Direct driving :

Under direct driving, the power supply will work in "constant current mode (CC)" and output voltage of the power supply will be clamped by sum of forward voltage (V_f) of the LED strip.

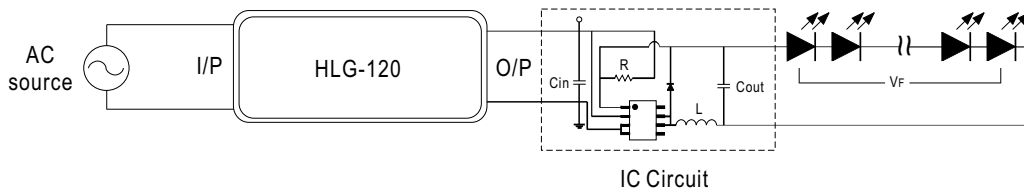
The total forward voltage of series connecting LEDs is suggested for 60%~95% of power supply rated output voltage due to concern of the best PF value and efficiency.



☉ With LED driver :

Using additional driver, the power supply will work in "constant voltage mode (CV)" and output voltage of the power supply will be kept in rated value. In this drive mode, several design issues need to be considered:

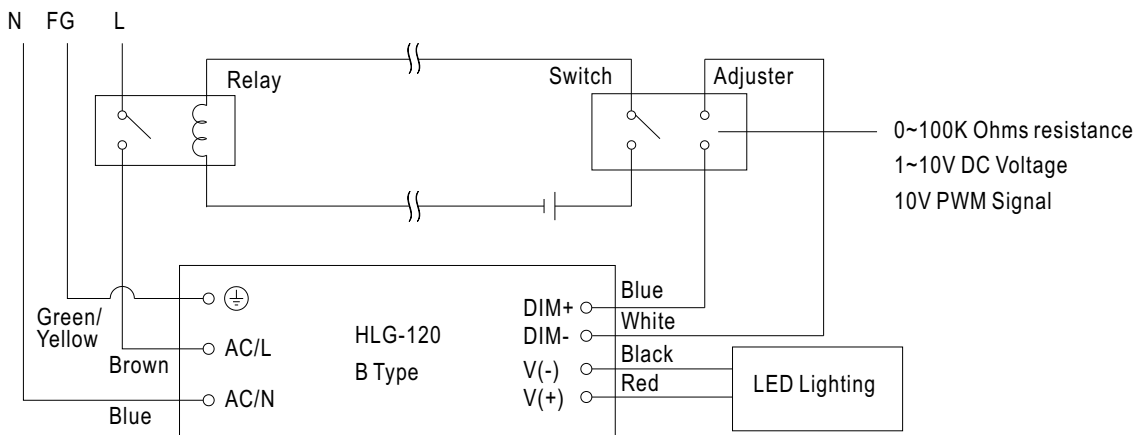
1. Output voltage of PSU must be higher than total forward voltage of series connecting LEDs by 3V minimum.
2. Input capacitor (C_{in}) of LED driver circuit should use 47 μ F ~ 100 μ F (typ.) of rating depends on the operating frequency of the LED driver. The higher the operating frequency is used, the smaller value of C_{in} should be chosen, and vice versa.
3. Do not use B type with LED driver.



■ DIMMING OPERATION(for B-type only)

Using the built-in dimming function on B-type model can't turn the lighting fixture totally dark. Please refer to the connection method below to achieve 0% brightness of the lighting fixture connecting to the LED power supply unit.

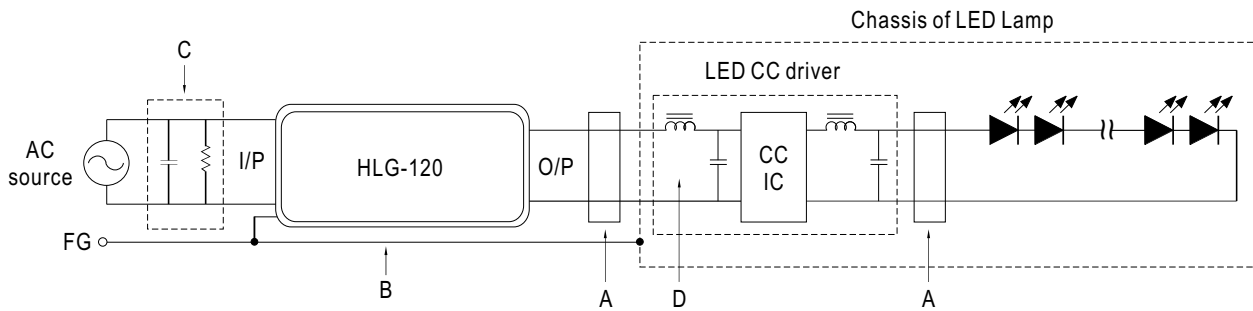
☉ Dimming connection diagram for turning the lighting fixture ON/OFF :



Using a switch and relay can turn ON/OFF the lighting fixture.

1. Output constant current level can be adjusted through output cable by connecting a resistor or 1~10Vdc or 10V PWM signal between DIM+ and DIM-.
2. The LED lighting fixture can be turned ON/OFF by the switch.

EMI DEBUG SUGGESTION

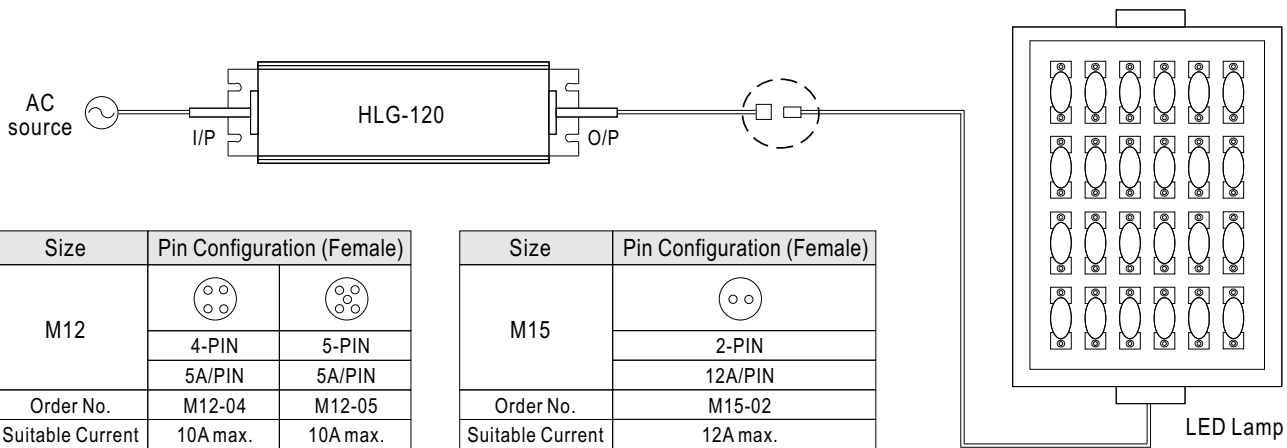


- A. Add a common mode ferrite choke on output wires to reduce the common emission between 10M ~ 300MHz per lighting EMI regulation.
- B. Chassis of LED lamp and chassis of HLG-120 or the FG wire should be connected to the safety ground to reduce the EMI noise, including the conduction and radiation emission.
- C. The additional X-Cap and discharge resistor can reduce the low frequency conduction noise between 9K ~ 1MHz per lighting EMI regulation.
- D. L-C filter should be added at the DC input of LED constant current driver to avoid the differential emission and high frequency noise generated by the CC driver.

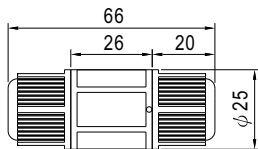
WATERPROOF CONNECTION

Waterproof connector

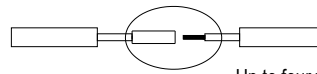
Waterproof connector can be assembled on the output cable of HLG-120 to operate in dry/wet/damp or outdoor environment.



Cable Joiner



Suitable for 14AWG~22AWG



Up to four wires can be connected through this cable joiner by soldering or clamping by tools.

